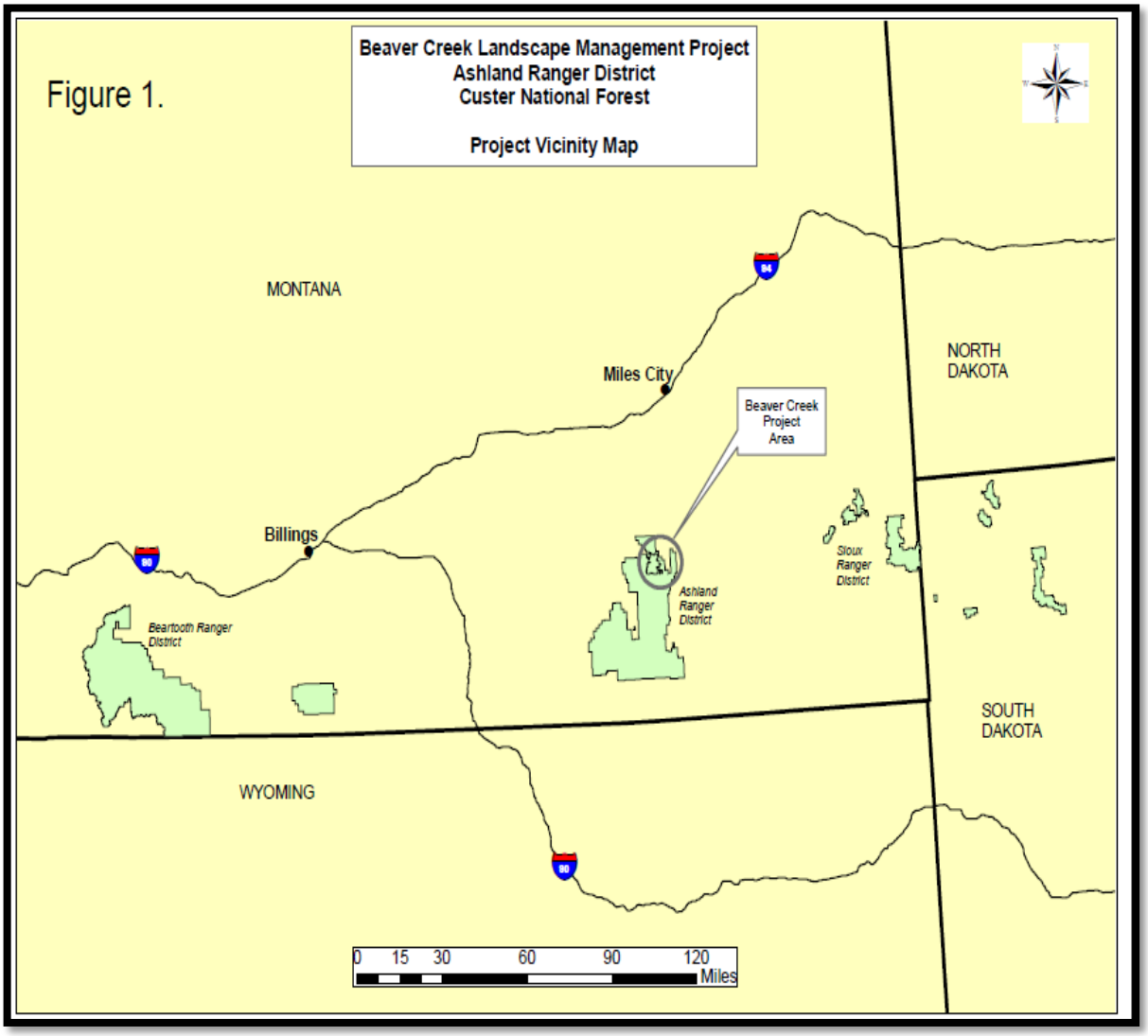
CHAPTER 1- PURPOSE AND NEED

I. INTRODUCTION

The Beaver Creek Landscape Management Project (BCLMP) area includes 14,053 acres on the Ashland Ranger District, Custer National Forest (CNF) in the Beaver Creek and East Fork Otter Creek drainages. The project area is located approximately 17 miles east of Ashland, Montana and north of Hwy 212 in Powder River County, Montana (Figure 1.1). Ashland has been designated as a "Community at Risk" from wildfire as defined in the Federal Register, August 17, 2001 (Vol. 66, No. 160). In addition, the unincorporated community of Stacey is located approximately four miles east of the BCLMP area, and the unincorporated community of Volborg is located approximately 15 miles northeast of the BCLMP area.

Figure 1.1: Project Vicinity Map.



Private property and rural residences abut the BCLMP area's eastern border. There is an infrastructure of improvements that the Forest Service manages, which include many miles of fences, the historic Whitetail Cabin (a public rental), and the Holiday Springs Campground. The north and eastern portions of the BCLMP area are also interspersed with private property, including ranch headquarters, hayfields and associated improvements.

Over the past 15 years, roughly two-fifths of the Ashland RD has experienced stand-replacing wildfire. These large wildfires have removed broad landscapes of Ponderosa pine forests along with public and private infrastructure. Following the 2000 fire season, Congress directed the Forest Service to identify high-risk wildland/urban interface areas. In 2002, Powder River County, the Broadus Volunteer Fire Department, State and Federal Agencies began working together to identify wildland fire risks, and identify areas in need of vegetative management activities to reduce undesirable fire effects, particularly in forested environments.

This collaborative effort resulted in the 2004 Powder River County Wildfire Protection Plan (PRCWPP), which identifies the northeastern portion of the Ashland Ranger District (including the BCLMP area), as the highest priority for fuels reduction in Powder River County. The PRCWPP also identifies the communities of Stacey and Volborg as communities within the vicinity of federal lands that are at high risk from wildfire (PRCWPP 2004). The quickest access route to these communities for emergency response personnel is via the East Fork Otter Creek Road. This road could become impassable in the event of a wildfire, and is the number one priority treatment area identified in the PRCWPP.

This collaborative effort and the resulting PRCWPP compelled the Forest Service to evaluate and prioritize the Beaver Creek area for fuels reduction treatment. Fire suppression, the lack of prescribed fire, and lack of alternative suppression strategies have encouraged pine-colonized grasslands and dense, multistory ponderosa pine stands in the Beaver Creek area. Repeat photo points illustrating vegetative trends and patterns from the late 1800's to 1974 supports this contention (Progulske 1974). Figures 1.2 and 1.3 are photos taken on Otter Creek Divide looking northwest towards Beaver Creek in 1905 and 1994 (Sneed 2005). The BCLMP area is increasing in homogeneity in its composition and structure, and the landscape is set up for severe, large fire and/or insect disturbance event.

The existing condition in the Beaver Creek area, which has missed several natural fire intervals, can be treated in accordance with the Custer Forest Plan (forest-wide and management area direction) to create a spatial distribution of forest development classes and stand structure that reduces the prevalence of surface, ladder and canopy fuel loads, reintroduces prescribed fire to portions of the landscape, and results in landscape that is more resilient to wildfires.

Figure 1.2: 1905: Photo looking NW towards Beaver-Creek – Otter Creek Divide.

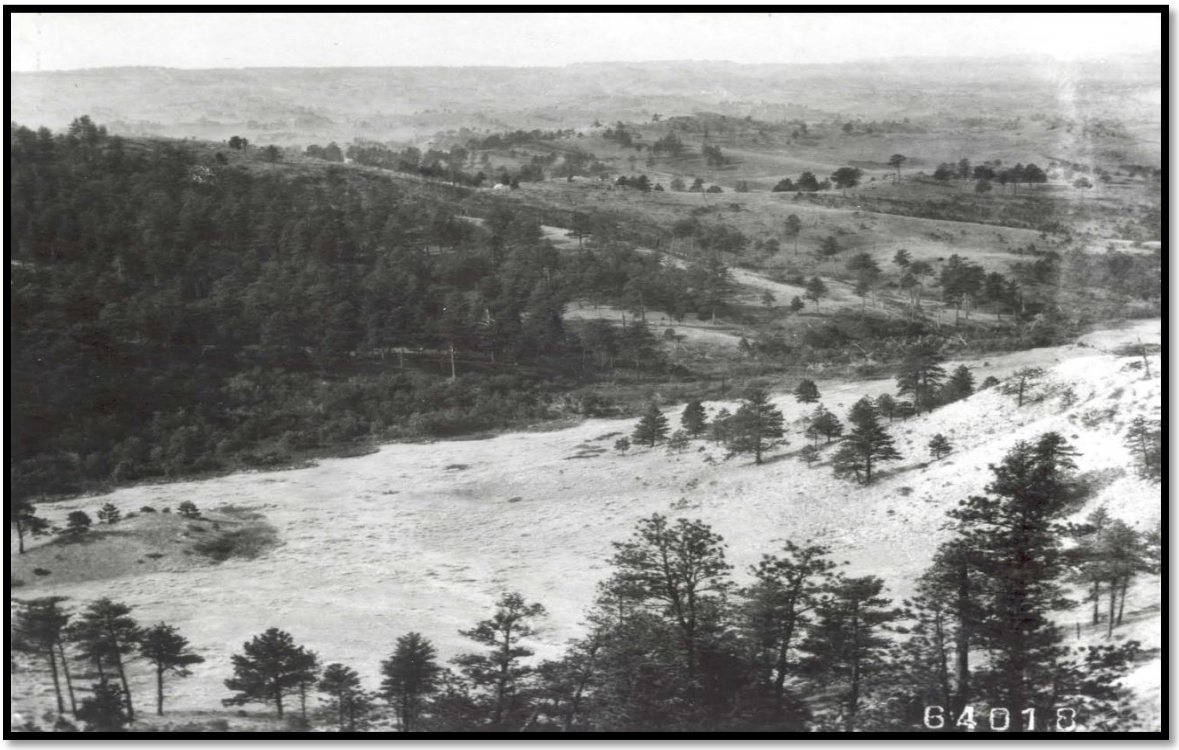
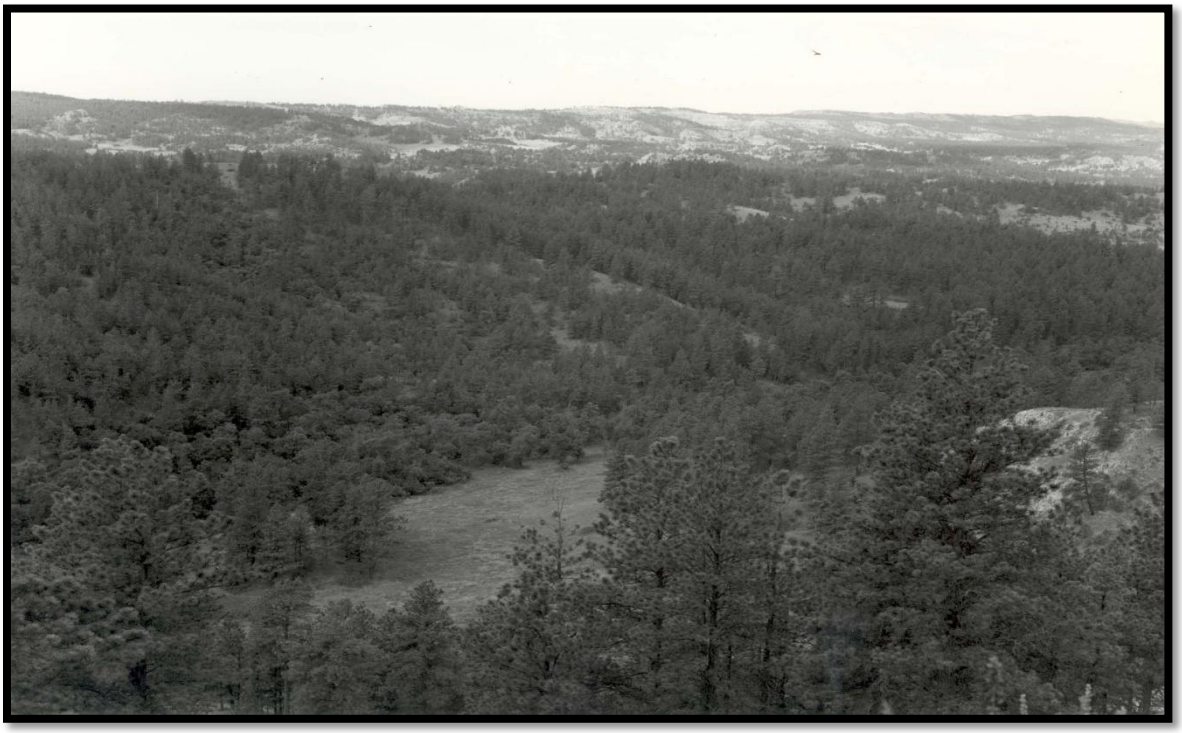


Figure 1.3: 1994: Looking NW towards Beaver-Creek – Otter Creek Divide.



II. PURPOSE AND NEED FOR ACTION

The BCLMP area is dominated by Ponderosa pine (*Pinus Ponderosa*). Historically, frequent low intensity fires burned ponderosa pine stands in the Ashland District, clearing brush and grass but leaving trees alive and healthy. The majority of the landscape was comprised of relatively open canopy stands. Stand replacing fire events were uncommon and high severity wildfires (greater than 75% mortality of the overstory trees) was limited to the closed canopy of mid and late development structure classes or during times of extended drought. (Refer to Section 3.1 – Forest Vegetation).

By excluding fire from the natural cycle through decades of fire suppression, extended drought and other changes, tree densities and flammable vegetation has increased across large areas of the forest landscape. Custer National Forest fire suppression records indicate that 25 fires less than ten acres each were successfully suppressed in the BCLMP area from 1985 to 2010. See FEIS Appendix A, Map 26. Fire suppression activities, drought and other activities have resulted in greater tree densities and a buildup of down woody material and ladder fuels across large areas of the forest landscape. The buildup of vegetation provides "ladders" for wildfire to climb into the treetops. In areas where trees are densely packed, the fires can spread rapidly from tree-to-tree in a phenomenon known as "crowning." Crown fires are intense, fast moving and nearly impossible for fire fighters to contain. They threaten communities and can damage key resources, including timber, fish and wildlife habitat, soils and drinking water quality. The 2000 Stag-Tobin Fire Complex on the Ashland RD, which burned over 71,000 acres, is an example.

Additionally, fire suppression has promoted high tree densities, and late development closed canopy conditions, which has resulted in conditions that are conducive to increased infestations and disease infections, reductions in tree growth, physical deformities, and stands that are more prone to snow, ice and wind damage. High tree densities increase competition, which reduces the health, vigor, and productivity of the ponderosa pine ecosystem. High tree densities increase tree mortality, natural fuel loading, and the risk of stand replacing wildfires. The lack of disturbance has fostered the development of multi-storied, dense, full-canopied ponderosa pine stands, which causes a decline in the understory shrub, herb, and grass species diversity. This decline, mainly due to shading, is demonstrated in some cases by the absence of the understory grass, forb, and shrub vegetative components in very dense stands.

The BCLMP area lacks structural diversity; in particular early development (post disturbance), mid development closed, mid development open, and late development open conditions. The existing stand structure was compared to a historic reference stand condition by utilizing the Black Hills PNVG[1]. The Black Hills PNVG provides a reference value for fire frequency, fire severity, and vegetative structure (See Project Record, Fuels Specialist Report, Appendix A). The departure from historic to existing stand conditions is shown in Table 1.1 below (also Table 3.2.1 in Chapter 3).

[1] Rationale for the use of the Black Hills PNVG has been included in Fuels Specialist Report Appendix C – Fire Regime Condition Class (see Project Record).

Table 1.1: Vegetative Departure from Historic Reference Levels for the BCLMP Area

Structural Class	Percent - Existing Condition	Percent - Reference (Black Hills PNVG)	Percent Departure
Post Replacement	1%	10%	-82%
Mid Development Closed	2%	15%	-76%
Mid Development Open	2%	25%	-85%
Late Development Open	20%	40%	-33%
Late Development Closed	75%	10%	76%

There is a need to diversify stand structure in the BCLMP area, and to promote early development, open and closed mid development, and late development open stand structure that promote disturbance regimes and processes more consistent with a fire adapted ecosystem. These structural classes represent low impact, naturally occurring disturbance regimes and processes on the landscape that are more sustainable and resilient to disturbance events.

The purpose of the BCLMP project is twofold, and responds to the need to improve the ecosystem's resiliency to fire across the BCLMP area, and to increase structural diversity across the landscape. The purpose of the BCLMP is to:

1) Reduce fuel loading (surface, ladder, and canopy fuels) on the landscape to promote lower intensity / severity fires as opposed to stand replacement fires, and

2) Promote a healthy, structurally diverse, productive, and vigorous growing ponderosa pine ecosystem that is resilient and sustainable.

The BLCMP proposes a combination of mechanical and non-mechanical treatments that target surface, ladder, and canopy fuels, which in turn affect fire behavior, and has a corresponding relationship with the risk of stand replacement wildfire. Treatments such as thinning from below remove ladder fuels (i.e. small trees and brush), large tree removal to increase crown spacing between residual trees, and prescriptive fire applications are proposed to meet the purpose and need. Proposed treatment would also manipulate forest vegetation to create a spatial distribution of developmental classes and structure (tree size and spacing) and trend the existing vegetation condition class to Forest Plan desired vegetation characteristics across this landscape.

Overall the desired condition is to reduce tree densities, canopy cover, canopy layers, and decrease the risk for large stand disturbance events (wildfire and widespread epidemic beetle activity). These desired conditions are described in detail in Appendix B of the FEIS and pages 35-43 of the Forest Vegetation Report in the project record).

The BCLMP area was selected for treatment in response to the identification of this area as a high-risk, priority area in the Powder River County Wildfire Protection Plan. Forest Vegetation treatments are needed to change landscape vegetation characteristics so as to better enable fire fighters to suppress and contain wildfires with undesirable fire effects and to increase the ability of portions of the BCLMP area to withstand high frequency low severity wildfires.

III. PROPOSED ACTION

The proposed action would reduce surface, ladder, and crown fire fuels on approximately 10,508 acres within the 14,053-acre project area to meet the purpose and need. The proposed action includes:

- Approximately 2,694 acres of forested area suited for commercial harvest would be treated by mechanical means (timber harvest), and approximately 22,495 hundred cubic feet (CCF) of harvested timber could be sold under contract.

- Approximately 4,220 acres would be treated non-commercially by hand or mechanical/mastication thinning activities. Of these 4,220 acres, approximately 2,146 acres would be hand thinned, and 2,073 acres would be either hand thinned or mechanically thinned (mastication).

- Prescribed fire would be used in conjunction with the commercial and noncommercial treatment on 4,463 acres. Approximately 3,594 acres would also be treated by prescribed fire only.

- Approximately 18.2 miles of new temporary roads would be constructed. Temporary roads would be closed and obliterated after management activities are completed.

- Approximately 16.6 miles of existing system roads would receive maintenance only.

- Approximately 12.8 miles of existing system roads would be reconstructed and maintained.

A complete description and maps of the Proposed Action are provided in Chapter 2 and Appendix A and B of this document.

Treatments have been designed to alter current forest structures to enhance the ability to manage fires, improve and/or retain wildlife habitats, reduce tree densities to lessen the susceptibility to epidemic beetle outbreaks, and provide for wood products removal consistent with Forest Plan goals and objectives.

A combination of treatments will be used that will most efficiently meet the fuels management direction of each Management Area (MA). The Forest will consider the use of prescribed fire, using both planned and unplanned ignition as a management tool. When prescribed fire-planned ignition is part of a treatment, it will be carried out at a time and within a prescription that will minimize impacts on air quality and soil damage and achieve the desired results (USDA 1986, p. 39).

Proposed treatments would trend portions of the ponderosa pine, grassland and woody draw ecosystems in the BCLMP area toward desired conditions disclosed within the Forest Plan. Overall the desired condition is to reduce tree densities, canopy cover, canopy layers, and decrease the risk for large stand disturbance events (wildfire and epidemic beetle activity).

These desired conditions, when applied across the project landscape at various intensities, will promote a healthy, structurally diverse, productive, and vigorous growing ponderosa pine ecosystem that is resilient and sustainable.

Appendix B of this document provides a more specific description of existing and desired condition for each treatment unit. Additional discussion relative to desired conditions is also provided in the project Forest Vegetation Report (see Project Record).

Consistency with Forest Plan Forest-wide goals, objectives, standards, and Management Area direction is discussed in detail in Chapter 2.

IV. PUBLIC INVOLVEMENT

A. PREVIOUS PROPOSALS

The BCLMP includes treatments previously proposed as the Whitetail Hazardous Fuels Reduction Project, and East Otter Hazardous Fuels project. Following is a summary of public involvement for these prior proposals:

- Earlier decisions for the East Otter project were released in 2005 and 2007. Treatments were proposed as activities categorically excluded from documentation in an Environmental Assessment or Environmental Impact Statement. Subsequent court orders invalidated the categorical exclusion for this type activity. In September 2008, a letter detailing the East Otter Proposed Action and inviting comments on the East Otter Hazardous Fuels project was mailed to six individuals and groups. The public was invited to review the Proposed Action at an open house at the Ashland District Office in October 2008. Additional informational meetings were also conducted with Powder River County Commissioners, adjacent private landowners and grazing permittees. An Environmental Assessment and draft Finding of No Significant Impact for the East Otter project was released in February 2009, initiating an objection period per 36 CFR 218. The Forest Service received objections to the East Otter decision and responded to objections, but did not issue a final project decision.

- In August 2007, a letter detailing the Proposed Action and inviting comments on the Whitetail Hazardous Fuels project was mailed to 47 individuals and groups, including federal and state agencies, environmental organizations and adjacent landowners. The public was invited to review the Proposed Action at an open house at the Ashland District Office in August 2007. Seven people attended the meeting. Additional informational meetings were also conducted with Powder River County Commissioners, adjacent private landowners and grazing permittees. The potential for exceeding a 40 acre opening size was identified in the scoping notice dated September 4, 2007 and mailed to 47 individuals and groups, including federal and state agencies, environmental organizations and adjacent landowners. An Environmental Assessment and draft Finding of No Significant Impact for the Whitetail project were released in March 2008, initiating an objection period per 36 CFR 218. The Forest Service received objections to the

Whitetail decision, responded to objections, and released a Decision Notice and Finding of No Significant Impact. The Forest Service was litigated and elected to withdraw the Whitetail decision.

Since 2008, the Forest Service has refined the Whitetail and East Otter treatment proposals and consolidated them into a single EIS. This was done to better respond to public comment and more efficiently address multiple objectives over a large landscape.

B. BEAVER CREEK SCOPING

Public scoping for the BCLMP was initiated January 28, 2010 and closed March 1, 2010. Scoping efforts included direct mailings describing the Proposed Action and three public meetings conducted in local communities that could be affected by the decision. Eight people attended the public meeting in Ashland, MT. Oral comments and discussion from this meeting were summarized and considered (see Project Record). There was no public attendance at either of the Billings, MT meetings. The Forest Service received seven letters or other forms of comment (i.e. electronically submitted comments) as a result of BCLMP scoping (see project record). Comments received during planning efforts for the East Otter and Whitetail projects and BCLMP scoping were considered, and used to further refine the proposed action and develop a list of issues used to evaluate alternatives, including:

1. Effects to forest vegetation, including forest insect and disease infestations;
2. Effects to fire behavior
3. Effects to goshawk (Forest Plan old growth habitat indicator species), including goshawk habitat connectivity and biological corridors;
4. Effects to big game (includes elk and deer), including big game habitat connectivity and biological corridors.

Based on preliminary analysis and comment received in response to scoping, a Notice of Intent (NOI) to prepare an environmental impact statement was published in the Federal Register on April 2, 2010. Given that scoping and public meetings were previously conducted, comments were not specifically requested at the time of NOI publication. Two unsolicited written comments were received in response to the NOI.

C. BEAVER CREEK DEIS

On October 15, 2010, a Notice of Availability was published in the Federal Register announcing the availability of the BCLMP DEIS, which initiated the 45 day public comment period. A press release was published on November 2, 2010 announcing the release of the DEIS, and an informational poster was displayed in the lobby at the Ashland Ranger District. The public comment period closed on November 29, 2010.

The DEIS examined two alternatives in detail, including the proposed action and no action alternatives. Nine alternatives were dismissed from detailed study. The Custer National Forest

received seven comment letters on the BCLMP DEIS, five of which expressed concerns over various aspects of the proposed action. Those letters came from:

1. Julie A. DalSoglia, U.S. Environmental Protection Agency
2. Sara Jane Johnson, Native Ecosystems Council
3. Michael Garrity, Alliance for the Wild Rockies
4. Dean Waltee, MT Fish, Wildlife & Parks
5. Bill Coburn, Neiman Timber Company

In addition, Ed Bukoskey, Rosebud MT submitted a general letter of support for the project, and Robert F. Stewart, U.S. Department of the Interior (DOI) submitted a brief letter stating that the DOI did not have any comments on the project.

The ID Team reviewed all of the comments received on the DEIS and responded to concerns that were raised (see Chapter 4). In addition, the ID Team met with MT Fish, Wildlife, & Parks biologist Dean Waltee on December 6 and 15, 2010 to discuss concerns related to big game security and hiding cover. As a result of public comment on the DEIS and subsequent meetings with the FWP biologist, the ID Team developed two additional action alternatives to address unresolved conflicts and display the effects of a range of reasonable alternatives.

V. ALTERNATIVE DEVELOPMENT PROCESS

The Interdisciplinary Team (ID Team) reviewed comments received on the DEIS, and determined that several concerns were best addressed by developing additional alternatives to the Proposed Action. These concerns became the key issues described below. Other comments were addressed by providing additional information regarding the existing condition and effects of implementing the action alternatives, additional mapping, or by developing additional design features common to all Action Alternatives. Copies of these letters are available in the project file.

A. ISSUES USED FOR ALTERNATIVE DEVELOPMENT

The following issues were used to develop alternatives to the Proposed Action:

1. **Big Game Habitat:** Several comments expressed concerns that the proposed action may negatively impact big game habitat, including security areas, hiding cover, thermal cover, winter range, and spring fawning/calving areas. One comment stated, "The current open road density in the Project area and in each individual watershed in the Project area fail recommendations for maximum road density for elk (1.0 mi/sq. mi) referenced in the DEIS. The percentage of security in the Project area (16%) fails security block recommendation of 30% referenced in the DEIS."

This issue is addressed through the development of Alternatives B and C, which place a seasonal (Sept. 1 – Dec. 1) motorized closure on Roads 41338 and 44094 to increase big game security

during the hunting season. This issue was further addressed by making improvements to maps in the FEIS that display the existing condition and effects of the proposed alternatives on hiding cover. In addition, contained in the project record is information concerning the location of Fish, Wildlife & Parks mapped whitetail deer winter range within the BCLMP area. The entire project is considered winter range and/or spring fawning/calving areas for other big game species such as elk and mule deer.

Issue Indicator

- Road density
- Percentage of security areas within the project area that are greater than 0.5 miles from a motorized road
- Canopy cover greater than 40% pre and post treatment

2. Northern Goshawk Habitat: Numerous comments expressed concerns that the proposed action may negatively impact goshawk habitat, a Management Indicator Species (MIS) for old growth forest. Several comments state, "The DEIS shows that goshawk populations on the Ashland Ranger District have lost expansive habitats from fire and an unknown amount from logging, and that goshawk post-fledging family areas and general foraging habitat is barely marginal…There was no discussion in the DEIS as to whether sufficient habitat is being provided for this species…Despite the habitat loss, the DEIS does not present any information on population trends for the goshawk, recognize the sensitivity of this species to logging, or provide information on the status of the two goshawk territories in the BCLMP."

This issue is addressed through the development of Alternative C, which eliminates all treatment in the two goshawk PFAs within the BCLMP area.

Issue Indicator:

- Meeting best science within PFAs (Brewer et. Al. 2009 and Reynolds et. Al. 1991)
- Risk to goshawk habitat from fire

3. Temporary Roads: Several concerns were raised about the impact of temporary roads, including the high cost of construction to implement a commercial timber sale, impacts to water quality, and weed dispersal.

This issue is addressed through the reduction of temporary roads in Alternative B and C. Alternative A would require the temporary construction and later obliteration of approximately 18.2 miles of temp roads, Alternative B would require 15.2 miles, and Alternative C would require 5.7 miles.

Issue Indicator

- Miles of temp road

B. ANALYSIS ISSUES

Issues associated with the resources listed below were identified during the scoping period and/or during the comment period on the DEIS, or are addressed as required by law, regulation, or policy. These issues are analyzed by disclosing, comparing, and contrasting the environmental and social effects of the proposed action and its alternatives. The results of the effects analysis on these resources are described in detail in Chapter 3.

Forest Vegetation
Fuels
Soils
Water Resources
Economics
Sensitive Plants
Range
Noxious Weeds
Scenery Resources
Recreation
Cultural Resources
Carbon Flux
Air Quality
Wildlife

VI. DECISION FRAMEWORK

A. SCOPE OF ANALYSIS AND DECISION

Regulations at 40 CFR 1508.25 require analysis of direct, indirect, and cumulative impacts of a proposed action and a range of reasonable alternatives, including no action. Direct effects are caused by the action and occur at the same time and place as the proposed action. Indirect effects are caused by the action and occur later in time or farther removed in distance, but are still reasonable foreseeable. Cumulative impacts are those impacts on the environment that can result from incremental impact of the action where added to other past, present, and reasonable foreseeable future actions.

Federal regulations also require a combined analysis of connected action. Connected actions are those that are closely related and 1) automatically trigger other actions, 2) could not or would not proceed unless other actions are taken previously or simultaneously, and 3) are independent parts of a larger action and depend on the larger action for their justification. The effects of connected actions are analyzed together.

This FEIS is the documentation of site-specific effects of the Proposed action, two additional Action alternatives, and an No Action alternative. It is not a general management plan or programmatic environmental analysis. No further decisions would be made under NEPA prior to implementation of the selected alternative.

The District Ranger on the Ashland Ranger District, Custer National Forest is the Responsible Official for making the decision concerning this proposal. Given the purpose and need, the deciding official will review the alternatives and the environmental consequences in order to make the following decisions:

- Whether to proceed with the action as proposed, as modified by another alternative or not at all.
- If an action alternative is selected, the Responsible Official will determine whether to require additional design features, mitigation measures and monitoring.

This decision will not change management area direction. It will not change wildland fire suppression strategies and tactics, or policies on whether or not to control wildfire. Other than a proposed seasonal motorized restriction proposed under Alternatives B and C, this decision will not change previous decisions made for travel management or weed control. (The seasonal motorized closure was included in Alternatives B and C specifically as a mitigation measure to improve big game security in response to public comment.)

B. OTHER RELATED EFFORTS

Implementation of the *2006 CNF Weed Management Record of Decision* is ongoing and includes the BCLMP area. This decision allows for the use of herbicides to treat noxious weeds and other undesirable vegetation (i.e. poisonous plants). This decision includes an adaptive management approach to weed management, and broadens noxious weed herbicide control methods to include the use of aerial herbicide applications. This decision also allows for adaptive management including treatment of new weed species; new weed infestations; and new control methods (including the use of new herbicides, biological control agents, mechanical and cultural techniques). The goal for noxious weed management in the BCLMP area portion of the Ashland RD is to prevent noxious weeds from going to seed, maintain or reduce the number of acres infested, and to eradicate all new starts as soon as they are found.

Implementation of the *2009 Ashland Travel Management Record of Decision (USDA 2009a)* is ongoing across the Ashland RD, including the BCLMP area. A Motor Vehicle Use Map (MVUM) specifying roads designated for motorized use has been published and distributed (USDA 2009b). MVUM patrol and enforcement and a District implementation plan for placing appropriate travel management signs are ongoing. Ongoing maintenance of National Forest System roads in the BCLMP area will continue to accommodate the Proposed Action and other land management and recreational activities on the Ashland RD.

The Roads 4409 & 44236 Junctions Realignment, Reconstruction, Road Maintenance and Improvement Project (USDA 2010a) was approved on September 28, 2010. This project will re-align Road #4409 (the Cook Mountain Divide road) and Trail #44236 where those routes intersect with the East Fork Otter Creek Road. The approach for Road #4409 will be re-aligned to protect a cultural resource site. Furthermore, the intersection of both routes will be constructed to properly align with the East Fork Otter Creek Road project. Trail #44236 will be reclassified as a Maintenance Level 2 Road. In addition, approximately 2.5 miles of the Cook Mountain Divide road (#4409) will be reconstructed. Reconstruction activities include, but will not be limited to, construction of rolling dips, aggregate surfacing, installation of culvert pipes, replacement and installation of fence and cattleguard, construction of inter-visible turnouts, tree clearing for sight distance, construct ditches, re-alignment of water pipeline and connections, obliteration of abandoned road segment(s), and install signs.

Additional projects implementing the Custer Forest Plan and projects/activities on private lands that may affect the Proposed Action or will combine with the Proposed Action to potentially result in cumulative effects are considered and disclosed in Chapter 3 of the DEIS and the project planning record as appropriate for each specific resource area.